




Test report No:
NIE: 02297RCB.002

Test report

Citizen Broadband Radio Service Test report as per WINNForum Test Specification WINNF-TS-0122-V1.0.0

Identification of item tested	AirSpeed 1000 3.550-3.700 GHz (B48)
Trademark	Not Provided
Model and /or type reference	AirSpeed 1000 3.550-3.700 GHz (B48), LTE-TDD Base Station, CBSD
Other identification of the product	Not Provided
Features	CBSD, Domain Proxy, LTE-TDD 48
Manufacturer	AIRSPAN NETWORK INC 777 YAMATO ROAD SUIT 310 BOCA RATON, FLORIDA – 33431 UNITE STATES OF AMERICA
CBSD Final HW version	C0
CBSD Final SW version	SR16.00
Domain Proxy Final SW version	SR16.50
Domain Proxy Final HW version	NA
Test method requested, standard	WinnForum TEST SPECIFICATION WINNF-TS-0122-V1.0.0
Summary	IN COMPLIANCE
Approved by (name / position & signature)	Bryan Mikesch, Chief Operations Officer, DEKRA Certification Inc. 
Date of issue	2019-01-24
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Competences and guarantees

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Uncertainty

Uncertainty (factor k=2) was calculated according to the DEKRA Testing and Certification internal document PODT000.

Data provided by the client

DEKRA declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

Usage of samples

Samples undergoing test have been selected by: Airspan Network, Inc.

Sample M/01 is composed of the following elements:

Control N°	Description	Model	Serial N°	Date of reception
02297.002	CBSD	AirSpeed 1000 3.550-3.700 GHz (B48)	DA5F26CD2350	2018-10-09
NA	Domain Proxy Software	Netspan	NA	2018-10-09

1. Sample M/01 has undergone the test(s) specified in subclause "Test method requested".

Identification of the client

AIRSPAN NETWORK INC
777 YAMATO ROAD SUIT 310, BOCA RATON, FLORIDA – 33431
UNITE STATES OF AMERICA

Testing period and place

Test Location	DEKRA Certification, Inc.
Date (start)	2018-10-09
Date (finish)	2018-12-10

Document history

Report number	Date	Description
02297RCB.002	2018-12-18	First release
02297RCB.003	2019-01-24	Final draft

Remarks and comments

- 1: The tests have been performed by the technical personnel: Vinayak, Thotton Veetil and Indusha, Chitepu

Testing verdicts

Not applicable :	N/A
Pass :	P
Fail :	F
Not measured :	N/M

Summary

Standard :	WINNF-TS-0122
Band :	TDD 48
Total	PASS VERDICT
32	32

Appendix A: Test Results

Test Spec	Ref	Name	Condition	Date	Test sample	Result	SAS version	CBSD SW Version	CBSD HW Version	DP SW Version
WINN F-TS-0122-V1.0.0	WINNF.FT.D .REG.2	Domain Proxy Multi-Step registration	Normal	10/10/2018	02297.0 02	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.D .REG.6	Domain Proxy Single-Step registration for CBSD with CPI signed data	Normal	12/10/2018	02297.0 02	PASS	1.0.0.2	SR16.00	C0	SR16.50
WINN F-TS-0122-V1.0.0	WINNF.FT.D .REG.9	Domain Proxy Missing Required parameters (responseCode 102)	Normal	10/10/2018	02297.0 02	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.D .REG.11	Domain Proxy Pending registration (responseCode 200)	Normal	10/10/2018	02297.0 02	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.D .REG.13	Domain Proxy Invalid parameters (responseCode 103)	Normal	10/10/2018	02297.0 02	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.D .REG.15	Domain Proxy Blacklisted CBSD (responseCode 101)	Normal	10/10/2018	02297.0 02	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.D .REG.17	Domain Proxy Unsupported SAS protocol version (responseCode 100)	Normal	10/10/2018	02297.0 02	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.D .REG.19	Domain Proxy Group Error (responseCode 201)	Normal	10/10/2018	02297.0 02	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.D .GRA.1	Unsuccessful Grant responseCode =400 (INTERFERENCE)	Normal	10/10/2018	02297.0 02	PASS	1.0.0.2	SR16.00	C0	SR16.00

Test Spec	Ref	Name	Condition	Date	Test sample	Result	SAS version	CBSD SW Version	CBSD HW Version	DP SW Version
WINN F-TS-0122-V1.0.0	WINNF.FT.C.GRA.2	Unsuccessful Grant responseCode =401 (GRANT CONFLICT)	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.D.HBT.2	Domain Proxy Heartbeat Success Case (first Heartbeat Response)	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.C.HBT.3	Heartbeat responseCode =105 (DEREGISTER)	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.C.HBT.5	Heartbeat responseCode =501 (SUSPEND_D_GRANT) in First Heartbeat Response	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.C.HBT.6	Heartbeat responseCode =501 (SUSPEND_D_GRANT) in Subsequent Heartbeat Response	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.C.HBT.7	Heartbeat responseCode =502 (UNSYNC OP PARAM)	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.D.HBT.8	Domain Proxy Heartbeat responseCode =500 (TERMINATED_GRANT)	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.C.HBT.9	Heartbeat Response Absent (First Heartbeat)	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.C.HBT.10	Heartbeat Response Absent (Subsequent Heartbeat)	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00

Test Spec	Ref	Name	Condition	Date	Test sample	Result	SAS version	CBSD SW Version	CBSD HW Version	DP SW Version
WINN F-TS-0122-V1.0.0	WINNF.FT.C.HBT.11	Successful Grant Renewal in Heartbeat Test Case	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.D.MES.2	Domain Proxy Registration Response contains measReportC onfig	Normal	12/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.50
WINN F-TS-0122-V1.0.0	WINNF.FT.D.RLQ.2	Domain Proxy Successful Relinquishme nt	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.D.RLQ.4	Domain Proxy Unsuccessful Relinquishme nt, responseCode =102	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.D.RLQ.6	Domain Proxy Unsuccessful Relinquishme nt, responseCode =103	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.D.DRG.2	Domain Proxy Successful Deregistration	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.D.DRG.4	Domain Proxy Deregistration responseCode =102	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.C.DRG.5	Deregistration responseCode =103	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.C.SCS.1	Successful TLS connection between UUT and SAS Test Harness	Normal	10/11/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.C.SCS.2	TLS failure due to revoked certificate	Normal	10/11/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00

Test Spec	Ref	Name	Condition	Date	Test sample	Result	SAS version	CBSD SW Version	CBSD HW Version	DP SW Version
WINN F-TS-0122-V1.0.0	WINNF.FT.C.SCS.3	TLS failure due to expired server certificate	Normal	10/11/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.C.SCS.4	TLS failure when SAS Test Harness certificate is issue by unknown CA	Normal	10/11/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.FT.C.SCS.5	TLS failure when certificate at the SAS Test Harness is corrupted	Normal	10/11/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00
WINN F-TS-0122-V1.0.0	WINNF.PT.C.HBT	UUT RF Transmit Power Measurement	Normal	10/10/2018	02297.002	PASS	1.0.0.2	SR16.00	C0	SR16.00

NOTE 1: Airspan confirmed that the DP proxy SW changes do not effect any other test case other than the two test cases WINNF.FT.D.MES.2 and WINNF.FT.D.REG.6. Hence only these test cases marked with were executed with the final DP software.

Appendix B: Test Systems

Test System Used

Model	Description	Control Number	Uncertainties
Dell Latitude, Windows 7, 64-bit	Laptop with SAS harness	CTC-5233-K	NA
EXA N9010A	Signal Analyzer	0018	NA
MXA N9020A	Signal Analyzer	0382	NA
HWg-STE Plain	Ethernet SNMP Thermometer	1107	NA
DR-4X7S201-LH	Shielded Chamber	0131	NA

Appendix C: CBSD/ DP Supported Features

Supported Features

Condition	Feature Description	Supported
C1	Mandatory for UUT which supports multi-step registration message.	Y
C2	Mandatory for UUT which supports single-step registration with no CPI-signed data in the registration message. By definition, this is a subset of Category A devices which determine all registration information, including location, without CPI intervention.	N
C3	Mandatory for UUT which supports single-step registration containing CPI-signed data in the registration message.	Y
C4	Mandatory for UUT which supports RECEIVED_POWER_WITHOUT_GRANT measurement report type.	Y
C5	Mandatory for UUT which supports RECEIVED_POWER_WITH_GRANT measurement report type.	N
C6	Mandatory for UUT which supports parameter change being made at the UUT and prior to sending a deregistration.	N

Appendix D: Reference Standards and Procedures

Reference Standards

Test and Certification for Citizens Broadband Radio Service (CBRS); Conformance and Performance Test Technical Specification; CBSD/DP as Unit Under Test (UUT) Working Document WINNF-TS-0122	V1.0.0
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Test Procedures

PECB001_00: CBRS Alliance Certification Testing Based On WINN Forum CBRS CBSD Test Specification “WINNF-TS-0122”
